

**To:** Christner, Jan[Jan.Christner@WestonSolutions.com]  
**Cc:** Anne Winckel[Anne.Winckel@respec.com]; Megan Burke[Megan.Burke@respec.com]; Goertz, Dave[Dave.Goertz@WestonSolutions.com]; Way, Steven[way.steven@epa.gov]  
**From:** Myers, Craig  
**Sent:** Tue 10/6/2015 7:39:50 PM  
**Subject:** Re: argonomic test results

Jan,  
Please confirm you and Steve talked about this since you sent it and you have what you need.

Sent from my iPhone

On Oct 6, 2015, at 12:55 PM, Christner, Jan <Jan.Christner@WestonSolutions.com> wrote:

Last week Lee collected soil samples at the three primary reclamation areas for agronomic analysis, SMP buffer capacity, and acid base account and he was supposed to run paste pH and XRF on the samples. I did not submit the samples to a laboratory because the shortest turn around time for the labs was after the reclamation plan was due (Monday, Oct 5). I realize now that everything gets delayed and I should have submitted the samples even though we wouldn't get the information until late, but didn't want to waste money on analysis that wouldn't be used. Moira just talked to the lab and if the lab gets the samples tomorrow we can get the results by Monday or Tuesday. That would mean someone would have to get the samples NOW and take them to Durango for overnight shipping. If they don't get the samples until Thursday, it would be hard to get the results next week.

The requested field paste pH analysis was not performed last week before Lee left so I requested that a second round of samples be collected and run for paste pH. The results were surprisingly low. It appears from your map that some of the samples were collected outside of the designated areas. It would be very helpful if someone could re-collect the samples (composite samples from the top 6 inches of soil) from the designated areas:

- [redacted] the triangle of soil between the CR53 and Cement Creek immediately south of the new North Fork channel
- [redacted] the area north of the lime addition hopper that extends over the new "roadway" and up along the area disturbed by the pipeline installation
- [redacted] the disturbed portion of the American Tunnel reclamation area located near the Gladstone ponds.

The areas are shown on the attached figures, with the second figure showing the primary areas that will be revegetated. Please note that the GLKB ErosionAreas document shows total area of 1.4 acres. We have rounded up to 2 acres to address the roadways, pullouts, and other miscellaneous areas that will be reclaimed.

If we will submit the samples for lab analysis, we need a 1 gallon baggie collected and inserted into a second baggie to protect it during shipping. Rocky material (anything gravel size or greater should be avoided). Please estimate the rock content (percent gravel size or greater) in each area.

Given the lack of acid base account and agronomic data, I estimated quantities for the soil amendments. The compost requirement was based on having no existing organic carbon in the soil and achieving 1-2 percent organic carbon in the top 3-6 inches of soil. The lime requirement was based on a lime requirement of 20 tons CaCO<sub>3</sub>/1000 tons soil. For 6" treatment, that would be 20 tons CaCO<sub>3</sub>/acre. Since the soil has a relatively high rock content, this amount of neutralization will go farther than if we had all fine-grained soils.

Craig, if you'd still like the ag and ABA data prior to determining amendment requirements, we can get that, but the work will be delayed.

Please let me know if you'd like me to change the assumptions, wait another 1-2 weeks for laboratory analysis, or provide additional information.

Jan

**From:** Anne Winckel [<mailto:Anne.Winckel@respec.com>]  
**Sent:** Tuesday, October 06, 2015 11:58 AM  
**To:** Megan Burke; Christner, Jan  
**Cc:** [myers.craig@epa.gov](mailto:myers.craig@epa.gov); Goertz, Dave  
**Subject:** argonomic test results

Hi Megan and Jan,

Craig Myers asked me to verify what soil parameters were collected in regards to the reclamation areas. I performed paste pH on rec areas 1, 2 and 3 on 10/3/15.

He would like argonomic test results, which may or may not have been collected

already. If this info has already been collected, we need to know the location the samples were collected and test results.

Anne

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